

AUTHORS:

Ponomarenko, Yu. M., I. V. Slobodchikova,  
S. A. Serein, ... L.

TITLE:

On the Preparation of Water-free Lithium Iodide  
and Lithium Iodide Dihydrate

PERIODICAL:

Journal of Non-Metallic Materials, 1971, Vol. 1, No. 1,  
pp. 40-71-1c74 (USSR)

ABSTRACT:

Various methods for the preparation of lithium iodide  
were tested and are here described:

1. Irradiation of lithium iodide by the application of  
organic reagents.
  2. Immediate interaction between lithium and iodine.
  3. Dehydration of lithium iodide in a DC-current at 300°C.
  4. Dehydration of lithium iodide melts in a vacuum.
- All the above-mentioned methods gave unsatisfactory results.
- In specially treated vacuum distillation water-free  
water-free lithium iodide was produced by heating of  
watery salts in a vacuum at 300-350°C and at a pressure of  
0,01 Hg. The water-free lithium iodide is stable to re-  
spective and decomposes under the influence of light.

Card 1/2

On the Preparation of Water-Free Lithium Iodide

There are 1 figure and 1 reference, 6 pages in length.

SUBMITTED: May 21, 1957

AVAILABLE: Library of Congress

1. Lithium iodide- Preparation- Test results

Card 2/2

BOCHARNIKOVA, I.M.; PETUSHKOVA, Ye.V.

Effect of carnosine on the contractile and enzymatic properties  
of actomyosin. Zhur. evol. biokhim. i fiziol. 1 no.5:385-  
390 S-O '65. (MIRA 18:10)

1. Kafedra biokhimii zhivotnykh Moskovskogo gosudarstvennogo  
universiteta imeni Lomonosova.

PETUSHKOVA, Yevgeniya Vasil'yevna; SA ITSP IV, .i., red.;  
OGURCOVA, I.I., trans. red.

[Qualitative characteristic of reflection in the inorganic  
natural Kachestvennye osobennosti struktura v nezhivoi  
prirode. Minsk, Izd-vo Nauk. zhurn., sredneg. spets. [1962-  
fes. Obrazovaniia BSSR, 1963. '3]. (MIA R-12)]

Natural History—Philosophy)

PETVIASHVILI, V.I.

Anomalous diffusion of a plasma in the presence of oscillations. Zhur. eksp. i teor. fiz. 44 no. 6:1993-2000 Je '63.  
(MIRA 16:6)

(Plasma oscillations)

PETVIASHVILI, V.I.

Nonlinear oscillations and certain effects caused by a longitudinal  
current in a plasma. Zhur. eksp. i teor. fiz. 45 no. 5:1467-  
1472 N '63. (MIFI A 17:1,

L 13630-63 EWT(1)/EWG(k)/BDS/EEG(b)-2 AFFTC/ASD/ESD-3/AFWL/SSD  
~~P1-4/P5-4/P2-4 AT/IJP(C)~~

ACCESSION NR: AP3003330

8/0056/63/044/006/1993/2000

AUTHOR: Petviashvili, V. I.

TITLE: Anomalous diffusion of a plasma in the presence of oscillations

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1993-2000

TOPIC TAGS: diffusion in plasma, drift waves, random oscillations

ABSTRACT: The problem is analyzed of a cylindrical column of collisionless plasma with radial density gradient and uniform temperature located in a strong longitudinal magnetic field directed along the z axis. In the plane  $z = 0$  this column is in contact with a 'cathode' which on the average emits exactly as many electrons and ions as reach its surface. In addition there are specified on the cathode random fluctuations of the jump associated with the double layer, which modulate the electron and ion streams leaving the cathodes and thus produce waves in the plasma. It is shown that intensified diffusion is produced only by oscillations in which both electrons and ions participate, with the diffusion currents of the ions and electrons equal to each other. The expression obtained for the diffusion flux shows that near the source (if the density gradient is large enough) the diffusion flux is proportional to the reciprocal of the magnetic field intensity and that the

[Card 1/2]

L 13630-63

ACCESSION NR: AP3003130

3

distance over which the enhanced diffusion occurs is proportional to the field. Far from the source the enhanced diffusion is caused only by drift waves which are absorbed by the electrons as a consequence of Landau absorption, and this is how the electrons can diffuse across the magnetic field. "The author is grateful to B. B. Kadomtsev for directing this work and to M. A. Leontovich and V. D. Shafranov for valuable comments." Orig. art. has: 2 figures and 36 formulas.

ASSOCIATION: none

SUBMITTED: 25Dec52 DATE ACQ: 23Jul63 ENCL: 00

SUB CODE: 00 NO REF Sov: 004 OTHER: 003

Card 2/2

KADOMTSEV, B.B.; PETVIASHVILI, V.I.

A weakly turbulent plasma in a magnetic field. Zhur.ekspl.  
teor.fiz. 43 no.6:2234-2244 D '62. (MIRA 16:1)  
(Plasma (Ionized gases)) (Magnetic fields)

ACC NR: AP6033406

SOURCE CODE: UR/0057/66/036/010/1737/1739

AUTHOR: Petviashvili,V.I.

ORG: none

TITLE: On ionic sound oscillations in a dense plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 10, 1966, 1737-1739

TOPIC TAGS: ionized plasma, dense plasma, electron temperature, electron flow, plasma oscillation, ionic sound

ABSTRACT: The present paper is an addendum to earlier work of the author (DAN SSSR, 153, 1295, 1963) and B.B.Kadomtsev (Voprosy teorii plazmy, t.4, p.188. Atomizdat, 1964) in which an equation was derived for the spectral density of the ionic sound excited by an electron current in a completely ionized plasma whose electron temperature is much higher than its ion temperature. The effect of ion viscosity was neglected in the earlier work. In the present paper the effect of ion viscosity on waves with propagation velocities that are much higher than the ion thermal velocities is calculated with the aid of Vlasov's equation [Abstracter's note: Vlasov's equation appears to be a variant of the kinetic or Boltzmann equation], and it is found that the effect of ion viscosity can be significant even when the wave frequency greatly exceeds the ion collision frequency. The effect of ion viscosity on the spectral density of ionic sound is calculated, and it is concluded that the spectral density vanishes at both

Card 1/2

UDC: 533.9

ACC NR: AP6033406

low and high frequencies. The author thanks B.B.Kadomtsev for valuable advice and discussions. Orig. art. has: 13 formulas.

SUB CODE: 20

SUBM DATE: 22Oct65

ORIG,REF: 003

Card

2/2

The camphor tree as a source of different substances  
J. Polys. Soc. Nederlands 1938, No. 4, p. 20  
XVII. Refer. Chem. Z., No. 7, 12, 10, 80. Besides the  
leaves and the branches of old trees leaves can be utilized  
to obtain camphor. Distill yields in the 130-80° fraction  
white camphor oil consisting mainly of pinene, camphene,  
dipentene, limonene, etc., in the approx. 200° fraction  
mainly camphor, in the 235-70° "heavy oil" fraction  
mainly safrole, some sesquiterpene and some camphor.  
above 270° the "blue oil" fraction used in the painting of  
parcels. W. R. Henn

ACC NR: AR7004029

SOURCE CODE: UR/0081/66/000/020/P015/P015

AUTHOR: Romacheva, L. M.; Ravikovich, A. M.; Petyakina, Ye. I.

ORG: none

TITLE: Synthesis of alkylbenzyl polysulfides and their use as antiseizing additives to lubricants

SOURCE: Ref. zh. Khimiya, Part II, Abs. 20P122

REF SOURCE: Tr. Kuybyshevsk. n.-i. in-t neft. prom-sti, vyp. 32, 1965, 174-180

TOPIC TAGS: lubricant additive, fractional distillation, alkyl benzene, fluid friction

ABSTRACT: Use as a starting material of the alkylbenzene fraction (bp 156–190°C,  $n_{D}^{20}$  1.5087,  $d_4^{20}$  0.872, mol.wt—115) of a reforming product, a series of alkylbenzyl polysulfides,  $(RC_6H_4CH_2)_2S_x$  (I) (where R is one or several lower alkyls and x=1–5) was synthesized and their antiseizing properties studied. The alkylbenzene fraction was treated with formaldehyde and with HCl and the resulting alkylbenzyl chlorides were treated with aqueous solution of  $Na_2S_x$  at 78–80°C. A solution of the reaction product in toluene was washed with an aqueous solution of NaOH, with an aqueous solution of  $Na_2S$ , and then with water. Toluene and the unreacted portion of the initial alkylbenzene fraction were removed by distillation. Antiseizing properties of I were evaluated

Card 1/2

UDC: none

ACC NR: AR7004029

on a 4-ball friction apparatus in accordance with GOST 9495-60 using ShKh-15 steel balls and a 3-5% solution of I in the TS-14.5 mineral oil. I ( $x^2$ ) is well soluble in the mineral oil and possesses good antiseizing properties. I ( $x^3$ ) possesses even higher antiseizing properties, but is only slightly soluble in the mineral oil. The antiseizing properties of I ( $x^1$ ) are comparatively low. Polysulfides with  $x^2$ , are recommended as antiseizing additives to transmission oils.

[WA-28] [PS]

SUB CODE: 11/ SUBM DATE: none

Card 2/2

L 25530-66 EWT(m)/EWP(w)/T/EWP(t) JD/DJ

ACC NR: AP6015646 (A) SOURCE CODE: UR/0413/66/000/009/0055/0053

INVENTOR: Ravikovich, A. M.; Zolotova, I. D.; Garzanov, G. Ye.; Vinner, G. G.;  
Petyakina, Ye. I.; Obleukhova, O. S.; Borshchevskiy, S. B.; Bagryantsaeva, P. V.

ORG: none

TITLE: Preparative method for antiwear additives. Class 23, No. 181223

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 9, 1966, 55

TOPIC TAGS: antiwear additive, monoolefin polymer, sulfurization

ABSTRACT: An Author Certificate has been issued for a preparative method of antiwear additives by sulfurization of monoolefin polymers at 140—180C. [B0]

SUB CODE: 11/ SUBM DATE: 16Jul64/ ATD PRESS: 4255

Card 1/1

L 2940-66 EWT(m)/EPF(c)/T DJ

ACCESSION NR: AP5024388

UR/0286/65/000/015/0068/0068  
621.892.8

AUTHOR: Mel'nikov, N. N.; Mandel'baum, Ya. A.; Petyakina, Ye. I.; Vinogradova, I. E.

TITLE: Preparative method for an anti-wear additive to lubricating oil. Class 23,  
No. 173368

SOURCE: Byulleten' izobreteniya i tovarnykh znakov, no. 15, 1963, 68

TOPIC TAGS: lubricating oil, antiwear additive, lubricant additive

ABSTRACT: An Author Certificate has been issued for a preparative method for an anti-wear additive to lubricating oils which is based on salts of dialkyl thiophosphates. To improve the quality of the additive, the salt is treated with hexachlorocyclopentadiene. [SM]

ASSOCIATION: none

SUBMITTED: 28Mar62

ENCL: 00

SUB CODE: FP

NO REF SOV: 000

OTHER: 000

ATD PRESS: 4110

Card 1/1

PETYAKINA, Ye. I.; EMINOV, Ye.A.; SHAMES, F.Ya.; STEPANOVA, N.K.

Lubricant performance of spindle and machine oils from eastern  
sulfur-bearing crudes. Trudy VNII NP no.7:86-96 '58.  
(MIRA 12:10)

(Lubrication and lubricants--Testing)

VINOGRADOVA, I.E.; PETYAKINA, Ye.I.; KARAMNOVA, V.P.

Optimum concentration of sulfur and chlorine components in some  
sulfur-chlorine antiseizing additivies to lubricating oils. Tren.1  
izn.mash. no.15.478-485 '62. (MKhA 15.3)  
(Lubrication and lubricants--Testing)

PETYAKINA, YE. I.

S/081/62/000/005/066/112  
B:62/B:01

119700

AUTHORS: Mal'kovskaya, A. A., Vavu, A. Ya., Kheyfets, Ye. M.,  
Rapoport, I. B., Liatov, V. A., Petyakina, Ye. I.

TITLE: Efficiency of some molybdenum and organosulfur compounds as  
antiwear additives to lubricating materials

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 530,  
abstract 5424 (ib. "Prisadki k maslам i toplivam".  
L., Gostoptekhnizdat, 1961, 71-79)

TEXT: It is shown that the additive N-15/30 (V-15/30), containing a  
complex compound of Mo, greatly improves the antiwear properties of mineral  
and synthetic lubricating materials; its action is particularly effective  
when used jointly with organic compounds containing S, Cl, and other  
elements. A disadvantage of the additive is its unsatisfactory thermal  
stability in certain high-temperature lubricating materials. The Mo-organic  
additive N-15/1 (B-15/1) can be used for preliminary application of  
antifriction noncorroding films on friction surfaces; in this case, ✓  
B

Card 1/2

Efficiency of some molybdenum ...

S/381/62/CCC/005/066/1-2  
3162/3:01

the efficiency of high-temperature lubrication using various lubricating materials is greatly improved. The S-organic additive S-15/2A (V-15/2A) is extremely effective as an antisizing medium for high-temperature lubricating materials. 1.5 - 3% of it added to lubricating materials, including those prepared on a base of Si-organic liquids, greatly improves their lubricating capacity under conditions of high-temperature friction of heavily loaded parts. Abstracter's note: Complete translation.

Card 2/2

S/081/62/000/005/080/112  
B162/B101

119700

AUTHORS: Vinogradova, I. E., Petyakina, Ye. I., Shames, F. Ya.

TITLE: Antiseizing additives in oils for automobile gears and the mechanism of their action

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 5, 1962, 527-528,  
abstract 5M212 (Sb. "Prisadki k maslам i toplivam".  
M., Gostoptekhizdat, 1961, 214-223)

TEXT: An examination is made of the usual types of additives to lubricating oils which reduce friction and wear, and the mechanism of their action. Results are given and discussed of tests on a 4-ball friction machine (in accordance with ГОСТ 9490-60 (GOST 9490-60)) using solutions of 22 organic compounds and some combinations of 2 of these compounds in LZ-14 (DS-14) oil. The compounds tested included alkyl xanthogenate derivatives (including the additives -6/9 (LZ-6/9), -19 (LZ-19), and -23 (LZ-23)), sulfured terpenes, chlorinated hydrocarbons, chloroalkyl phosphinic esters, S-Cl-containing compounds, molybdenum blue (I), and S-P-containing compounds.

Card 1/2

L 18401-65 EPF(c)/EWT(m)/T/ Pr-4 ASD(p)-3/APETR/ASD(m)-3 Dj

ACCESSION NR: AP5001488

S/0065/64/000/012/0044/0047

AUTHOR: Ravikovich, A. M.; Fetyakina, Ye. I.; Bagryantseva, P. P. ✓✓

TITLE: Thermal stability of antiwear additives in lubricating oils

SOURCE: Khimiya i tekhnologiya topliv i mazel, no. 12, 1964, 44-47

TOPIC TAGS: lubricating oil, antiwear additive, phosphorus containing antiwear additive, thermal stability, antiwear additive thermal stability

ABSTRACT: A method for determining the thermal stability of antiwear additives in concentrations which can be used for improving lubricating oils is described. The method is suitable for determining the antiwear effect of the additive itself and of those of its decomposition products which may arise at elevated temperatures. The method consists of a stepwise determination of the antiwear properties of the additive in oil after heating to a given temperature in a hermetically closed stainless-steel (1Kh18N9) container. After cooling to room temperature, the additive-containing oil was tested in a four-ball friction machine. A new sample was taken for each new temperature step. For different

Card 1/3

L 18401-65

ACCESSION NR: AP5001488

additives, some degree of wear was achieved, and the temperatures were compared. The thermal stability (TS) of an oil-additive mixture is the temperature above which the additive is decomposed in oil and its antiwear effect is lost. By the same method as the TS determination, the decomposition temperatures of the pure additives were determined in the same stainless-steel containers. In general, TS exceeds decomposition temperature. It was also observed that other additives in oil may influence the TS of the antiwear additive. In the study reported, phosphorus-containing additives, DF-11 (a 50% concentrate of a Zn-dialkylphosphorodithioate), VNII NP-354 (a 50% concentrate of a Zn-di(alkylphenyl)phosphorodithioate), Santolub-493 (an industrial sample of Zn-dialkylphosphorodithioate concentrate), and EFO-Zn (a 25% concentrate of a Zn-alkyl(alkylaryl)phosphonodithioate), were used with TS-14.5(VTU 110-61) transmission mineral oil in concentrations of 0.4, 2.0, 0.3, and 2.0%, respectively. These concentrations were selected as the minimum ones for the determination of the TS. The heating of the additive in oil was carried out for 6 hr. The TS values found indicate the limits of the operational use of the given combination. Thus, DF-11 with TS = 150°C can be used in transmission oils, while VNII NP-354 is indicated for diesel oils with operational

Card 2/3

L 18401-65

ACCESSION NR: AP5001488

temperatures up to 2700. Orig. art. has: 3 tables.

ASSOCIATION: VNII NP

SUBMITTED: 00

ENCL: 00

SUB CODE: FP,TD

NO REF Sov: 005

OTHER: 009

ATD PRESS: 3154

Card 3/3

L 35527-65 EWI(m)/EPP(c)/I Pr-4 DJ  
ACCESSION NR: AP5008180

B/0286/65/009/005/0057/0058  
70

AUTHORS: Mandel'baum, Ya. A.; Mel'nikov, N. N.; Petyakina, Ye. I.; Vinogradova,  
I. E.; Pil'menskaya, I. A.

TITLE: A method for obtaining an antiabrasion additive for lubricating oils.  
Class 23, No. 168828

SOURCE: Byulleten' izobretens i tovarnykh znakov, no. 5, 1965, 57-58

TOPIC TAGS: abrasion, wear resistance, dialkyl ester, dithiophosphoric acid,  
dimethyl ester, hexachlorcyclopentadiene

ABSTRACT: This Author Certificate presents a method for obtaining an antiabrasion  
additive for lubricating oils. The additive is based on dialkyl esters. To improve  
the quality of the additive, dialkyl esters of dithiophosphoric acid, such as  
dimethyl ester of dithiophosphoric acid, are subjected to interaction with  
hexachlorcyclopentadiene.

ASSOCIATION: none

SUBMITTED: 28Mar62

ENCL: 00

SUB CODE: GC, PP, MT

NO REF Sov: 000

OTHER: 000

Cord. 1/1

L 01805-67 EWT(m)/I DJ

ACC NR: AP6030592 (AN) SOURCE CODE: UR/0413/66/000/016/0074.0074

INVENTOR: Garzanov, G. Ye.; Petyakina, Ye. I.; Bagryantseva, P. P.; 61  
6C  
Shames, F. Ya.; Ravikovich, A. M.; Boshchevskiy, S. B.; Maloletkov, Ye. K.  
Selivanchik, Ya. V.; Gusman, M. Ye.; Skvirsckiy, P. A.; Aver'yanov, V. A.  
Uzunkoyan, P. N.; Pisarchik, A. N.; Mikhaylov, Yu. A.; Belogradchik, A. I.,  
Bayevskiy, F. S.; Fomin, N. I.

ORG: none

TITLE: Method of obtaining a hydraulic lubricant. Class 23, No. 185000.  
[Announced by the Scientific Research Institute for Organization, Mechanization,  
and Technical Assistance to Construction (Nauchno-issledovatel'skiy institut  
organizatsii, mekhanizatsii i tekhnicheskoy pomoshchi stroitel'stva)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966,  
74

TOPIC TAGS: lubricant, lubricant additive, antioxidant additive, polymethacrylate,  
hydraulic lubricant

ABSTRACT: An Author Certificate has been issued for a method of obtaining a  
hydraulic lubricant by means of additives with an oil base. To expand the operat-  
Card 1/2 UDCE 621.892.8:621.226

1 01605-67

ACC NR: AP6030592

ing temperature range of oil a mixture of commerical oil and diesel-oil residue are taken as the oil base to which a multifunctional additive is added, such as EFO, an antioxidant agent, such as octadecylamine, and a depressing agent, such as a polymethacrylate. [Translation]

[NT]

SUB CODE: 11/ SUBM DATE: 25May65/

Card 2/2 1d

L-101-66 T/T(m)/T/T(j)/T DJ/RM  
ACC NR: AP6030551 (A, M)

SOURCE CODE: UR/0413/66/000/016/0031/0031 (2)

INV NLR: Sanin, P. I.; Shepeleva, Ye. S.; Borodach, M. S.; Myannik, A. G.  
Val'kavskiy, L.; Petyakina, Ye. I.; Vinogradova, I. E.

ORG: none

TITLE: Preparative method for bis(trichloroalkyl) esters of alkylphosphonic acids.  
Class 12, No. 104644 (authorized by the Institute of Petrochemistry Synthesis, AN SSSR  
(Institut neftekhimicheskogo sinteza AN SSSR))

SOURCE: Izobreteniya, vynovlyayushchiye obrazetv voinnyye znaki, no. 16, 1966, 31

TOPIC TAGS: Lubricant additive, mineral oil, alkylphosphonic acid

ABSTRACT: An Author Certificate has been issued for a preparative method for bis(trichloroalkyl) esters of alkylphosphonic acid of the general formula  $RPO(O)[C(CH_2)_nCl_3]_2$ , where R is an alkyl group and n = 1, 2, 6, 8. To obtain such esters suitable as additives to mineral oil, alkylphosphonic di chlorides are treated with trichloroalkyl alcohols in the presence of an organic base, e.g., pyridine. [SM]

SUB CODE: 07, 31/ SUBM DATE: 05May65/ STD PRESS: 5'72

Card 1/1

UDC: 547.61.2.07

PETYAKSHEV, I.; LUNKIN, P.; REPIN, I.[deceased]; YEGOROV, V., red.

[Kural builder] Sel'skii stroitel'. Saransk, Mordovskoe  
knizhnoe izd-vo, 1964. 46 p. (MIRA 17:10)

1. Starshiy proizvoditel' rabot Kovylkinskoy mezhkolkhoznoy  
stroitel'noy organizatsii "Avangard", Mordovskaya respublika  
(for Petyakshev). 2. Zamestitel' predsedatelya kolkhoza  
"Sovetskaya Rossiya" Krasnoslobodskogo proizvodstvennogo  
upravleniya Mordovskoy respubliki (for Lunkin'). 3. Nachal'nik  
tsekha zhelezobetonnykh konstruktsiy Kuzayevskoy mezhkolkhoz-  
noy stroitel'noy organizatsii Mordovskoy respubliki (for  
Repin).

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240710012-3

MAN AND MAN AND THE STATE IN AFRICA

AN APPRAISAL OF THE POLITICAL SITUATION IN AFRICA RELATED TO THE  
SOUTH AFRICAN APARTHEID REGIME AND THE RUSSIAN POLITICAL SYSTEM.  
BY DR. RICHARD J. KELLY

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240710012-3"

PETYASHIN, B.I., do sent

Investigating stresses and vibrations of a milling-machine  
table. Trudy GPI 17 no.4:23-40 '61. (MIRA 16:12)

GOLOVACH, A.G.; GRUBOV, V.I.; ZAMYATNIN, B.N.; LINCHEVSKIY, I.A.; PETYAYEV, S.I.; PIDOTTI, O.A.; PILIPENKO, F.S.; POLETIKO, O.M.; RODIONENKO, G.I.; SAAKOV, S.G.; SELIVANOVA-GORODKOVA, Ye.A.; SOKOLOV, S.Ya., prof., doktor biolog.nauk; SHIPCHINSKIY, N.V. [deceased]; BELKINA, M.A., red.izd-va; ELEYKH, E.Yu., tekhn.red.

[Trees and shrubs of the U.S.S.R.; wild and cultivated species and plants considered for prospective introduction] Derev'ia i kustarniki SSSR: dikorastushchie, kul'tiviruemye i perspektivnye dlja introduktsii. Moskva, Vol.5. [Angiosperms: myrtle and olive families] Pokrytosemennye: Semeistva mirtovye-meslinovye. 1960. 543 p. (MIRA 13:12)

1. Akademiya nauk SSSR. Botanicheskiy institut.  
(Myrtle) (Olive) (Plant introduction)

PRIVAYEV, S. I.

PRIVAYEV, S. I. - "The Biological Resources of Siberia," 1957  
in the USSR. Published by the Academy of Agricultural Sciences.  
Botanical Institute, L. V. Kurnev. (Information from the Department of  
Biological Sciences)

PRIVAYEV, S. I. - "The Biological Resources of Siberia," 1957

1. FILIZAYEV, S. I.
2. UC R (A/C)
4. Clive
7. "Clive 'true,'" *Pravda*, 11, 1953, p. 1, 1952
9. Monthly List of Russian Accessions, Library of Congress, January, 1953. Unclassified.

PETYAYEV, S. I.

Agriculture

Olive. Moskva, Pishche rassadit, 1951

9. Monthly List of Russian Accessions, Library of Congress, \_\_\_\_\_ 1953. Unclassified.

PETYAYEV, S. I.; FEDOROV, V. A.

Apsheron - Olive

Methods for accelerated propagation of the olive on Apsheron. Vest. sel'khoz.  
No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

PETYAEV, S. I.; FEDOROV, M. A.

Olive - Apsheron

Methods for accelerated propagation of the olive on Apsheron. Dost. sel'khoz. No. 2, 1953.

SO: Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

YEVDOKIMOV, V.G., inzh.; PETYGIN, V.I., inzh.

Moisture meter for continuous moisture measurement in flows of  
loose materials. Priborostroenie no.1:19-20 Ja '63.

(MIRA 16:2)

(Moisture—Measurement)

YEVDOKIMOV, V.G.; PETYGIN, V.I.; PYZHOV, V.S.; prinimali uchastiye: SMIRNOV,  
V.M.; KISELEV, L.N.; SHUMILOV, A.S.; VINOGRADOV, V.K.; TIKHONOV, N.A.

Investigating granulators as controlled systems. TSvet. met. 35 no.6:  
41-46 Je '62.  
(Ore dressing) (Granular materials)

S/119/63/000/001/008/016  
D201/D308

AUTHORS: Yevdokinov, V.G. and Petygin, V.I.

TITLE: A hygrometer for continuous measurement of the moisture content of loose materials

PERIODICAL: Priborostroyeniye, no. 1, 1963, 19-20

TEXT: The authors give a short description of construction and of operation of a hygrometer designed at the laboratory of automation at Gintsvermet. The instrument is basically a line with distributed constants with the generator at one end and moisture content transducer at the other end, the indicating instrument being connected at a point along the line corresponding to or near the maximum voltage node. The instrument operates at a frequency of 42 Mc/s. The moisture pick-up consists of a sensing element, two thin metal plates fixed in dielectric and bent along the internal radius of a thin-walled drum made of dielectric material. The last part is a PTFE cylinder with 5 mm thick walls. The drum moves continuously the material over the sensing element, the plates are

Card 1/2

BRYUKVIN, V.A.; PETYGIN, V.I.; KABACHKOV, N.I.

Methods of studying the macrokinetics of oxidation of sulfide materials with a continuous recording of the chemical reaction rate. Elektrokhimiia 1 no.7:806-811 Jl '65. (MIRA 18:1C)

1. Gosudarstvennyy institut tsvetnykh metallov.

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Expansion of the Czech coal industry. Ugol' 32 no.3:43-45 Mr '57.  
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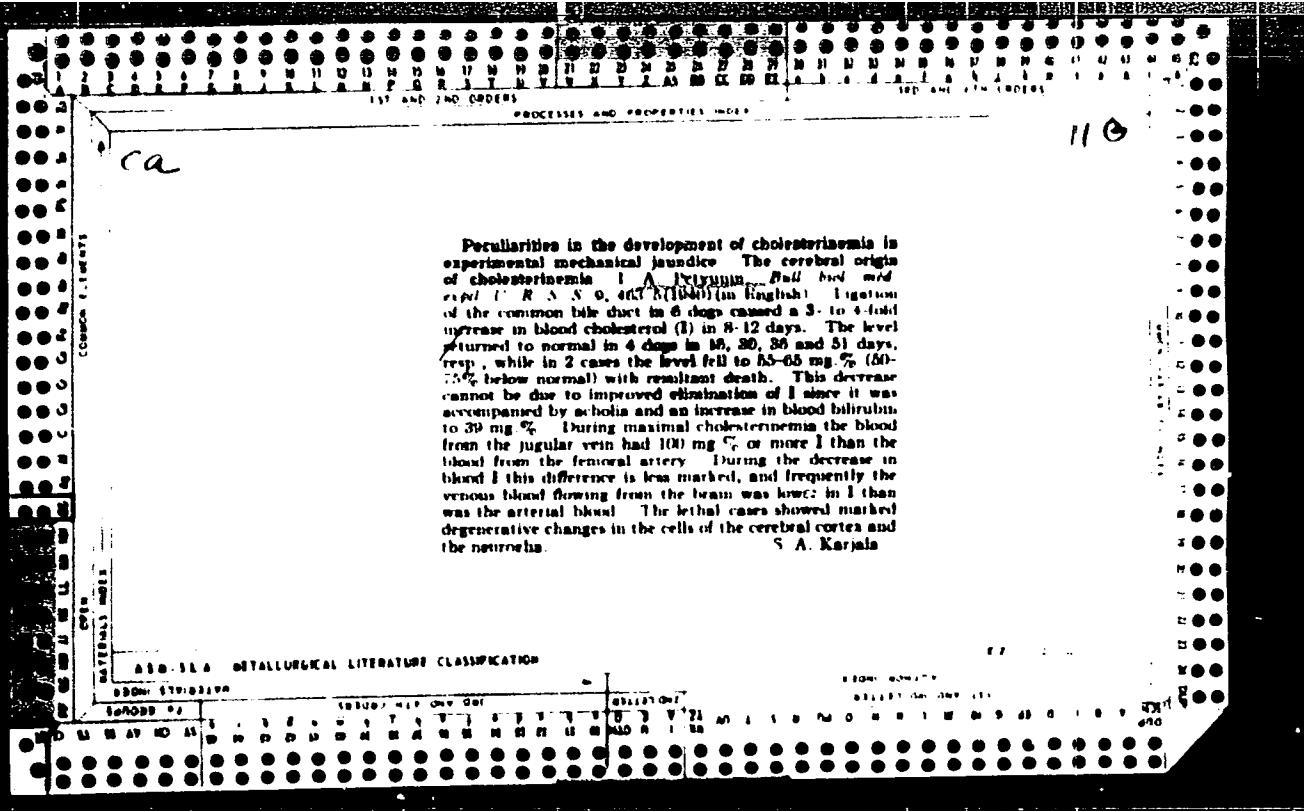
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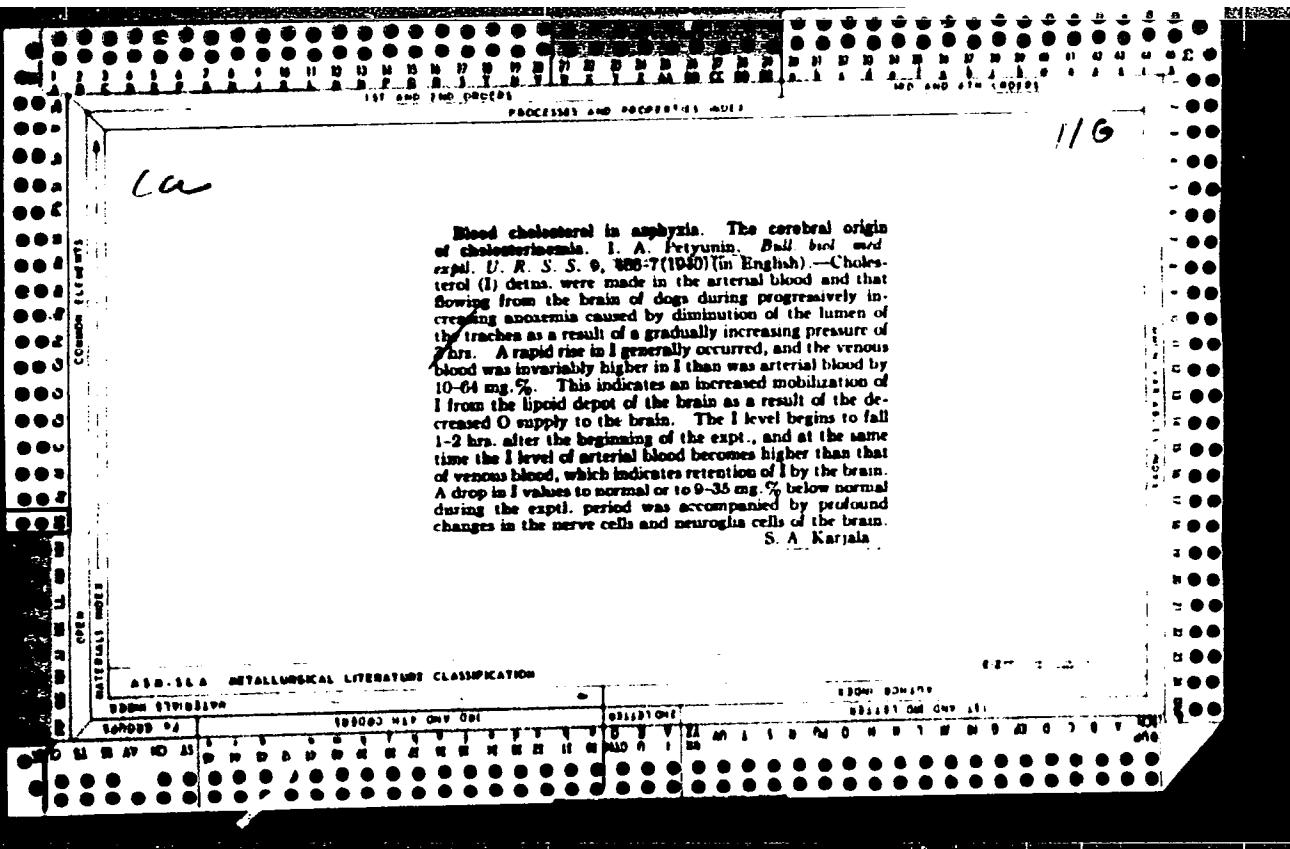
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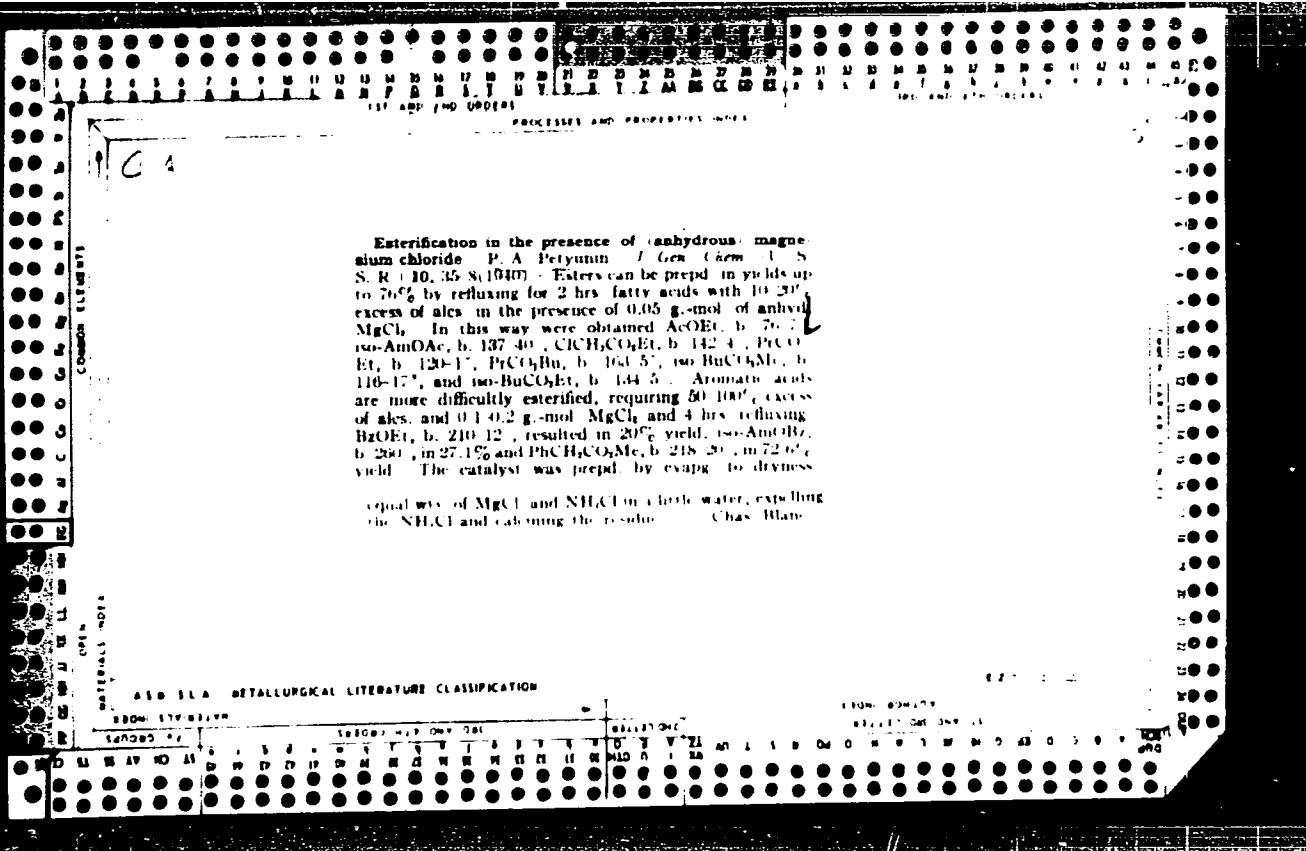
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(MEDICINE, MILITARY)

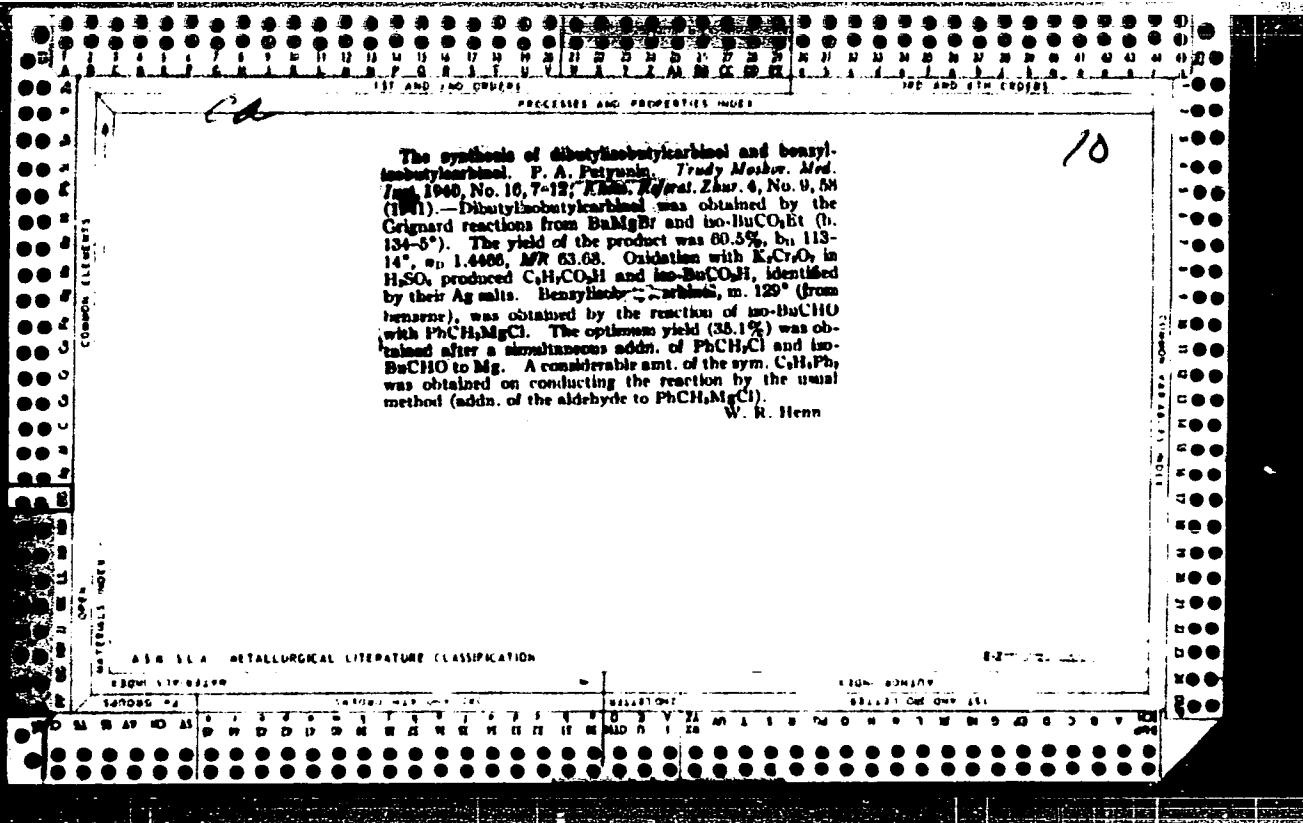
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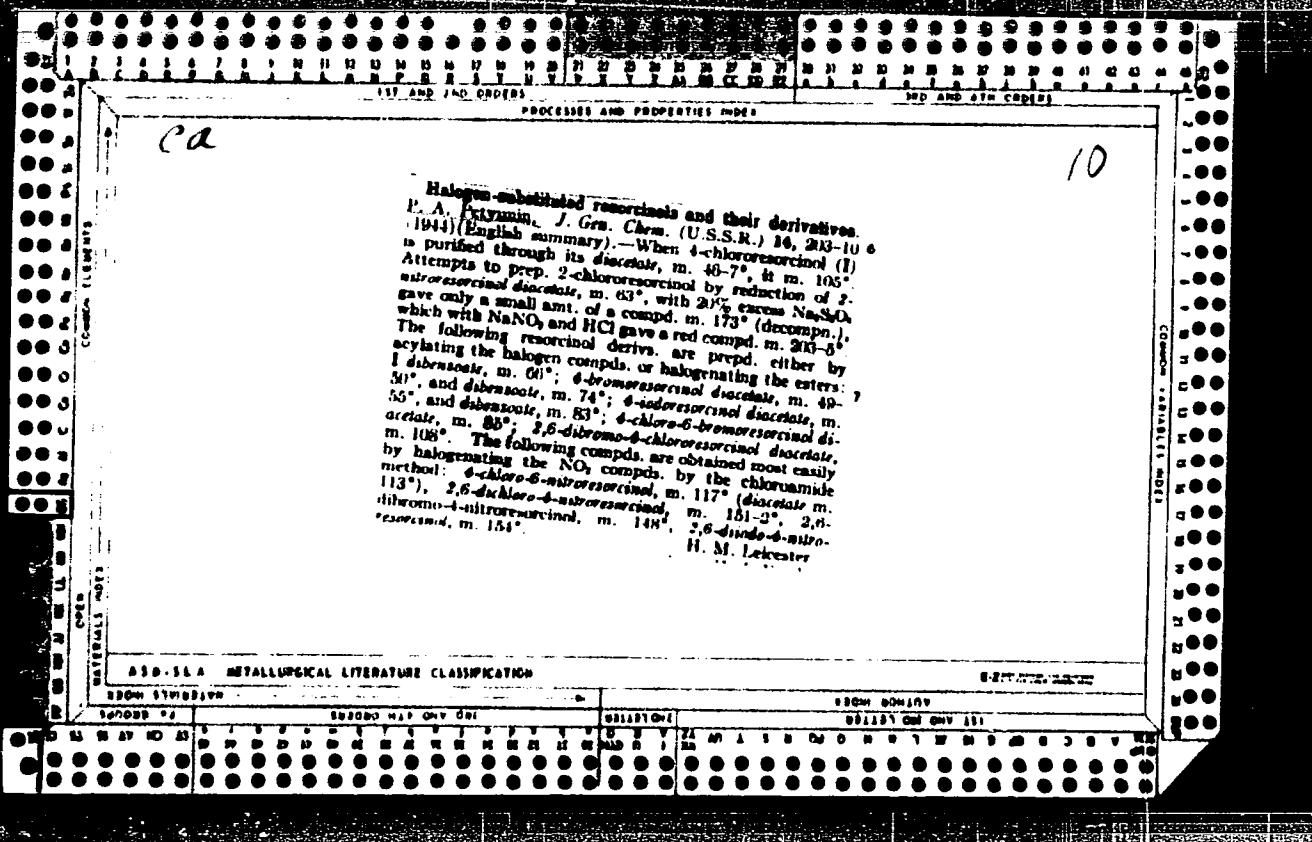
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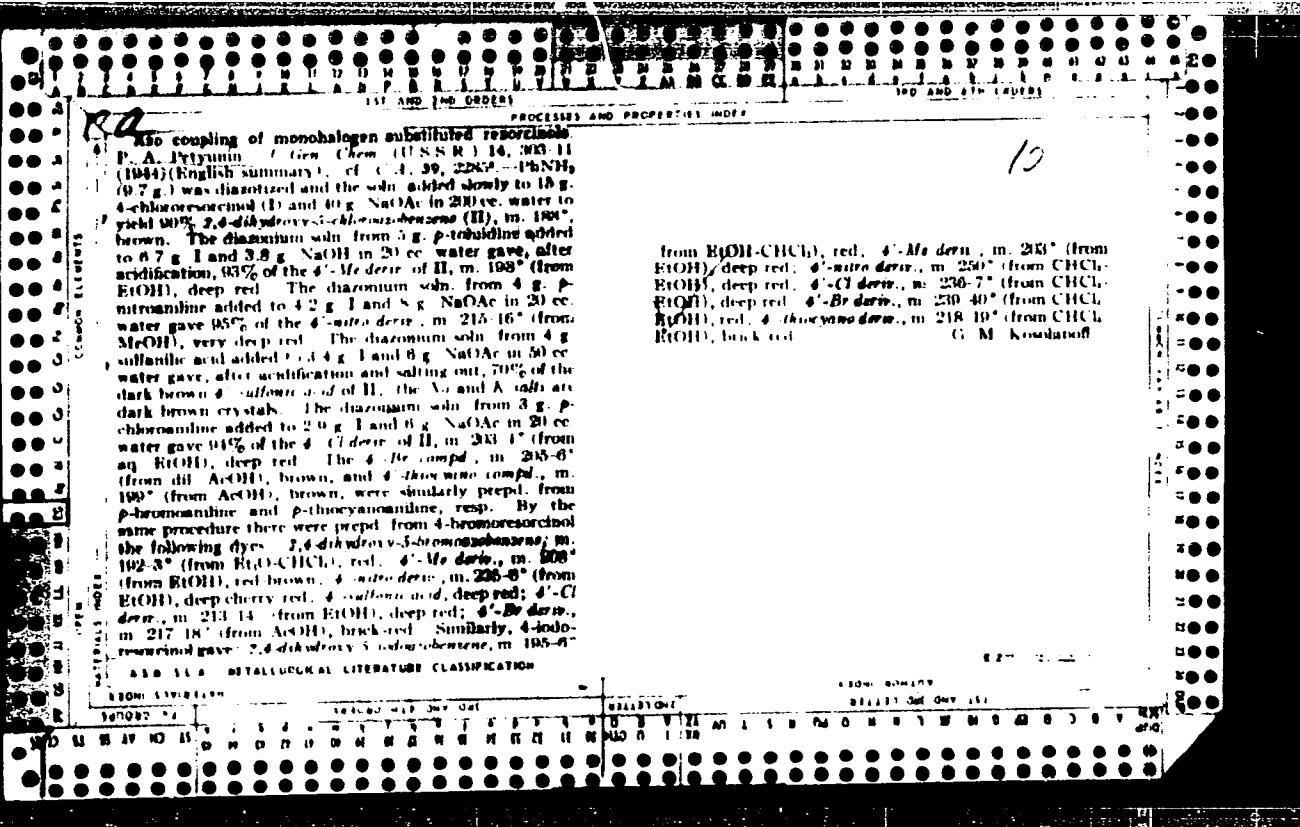
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of Oxalic Acid with Ethyl Ester," 1947, 1948;

1947.





1ST AND 2ND ORDERS												3RD AND 4TH ORDERS																																															
PROCESSES AND PROPERTIES INDEX																																																											
<p>CIA</p> <p>Action of Grignard reagents on esters of <i>N</i>-substituted amides of dicarboxylic acids. I. Reaction with the ethyl ester of oxalic acid. P. A. Petrunin and N. G. Panferova. <i>J. Gen. Chem. (U.S.S.R.)</i> 17, 509-6(1947)(in Russian).—Reaction of RMgX with esters of oxalic acid (PhNH<sub>2</sub>COOC<sub>2</sub>H<sub>5</sub>) was investigated at various reagent proportions; at a 4:1 molar ratio, the products are anilides of <math>\alpha</math>-HO carboxylic acids, while a 2:1 molar ratio yields mainly the anilides of keto acids. <i>MeMgI</i> (from 4.4 g. Mg and 25.7 g. MeI) and 10 g. Et<sub>2</sub>SnCl<sub>2</sub> (I) in 20 cc. Et<sub>2</sub>O refluxed 2.5 hrs., treated with dil. HCl, and extd. with Et<sub>2</sub>O yielded, on evapn. of the solvent, 53% <i>Me<sub>2</sub>C(OH)CONHPb</i>, m. 131-2° (from H<sub>2</sub>O). I (5 g.) and <i>Et<sub>2</sub>MgI</i> (from 2 g. Mg and 12.9 g. EtI) similarly gave 76.8% <i>Et<sub>2</sub>C(OH)CONHPb</i>, m. 93° (from H<sub>2</sub>O). I (10 g.) in 20 cc. Et<sub>2</sub>O, treated with cooling and stirring with <i>Et<sub>2</sub>MgI</i> (from 3 g. Mg and 19.3 g. EtI), allowed to stand 24 hrs., treated with dil. acid with cooling, and extd. with Et<sub>2</sub>O gave 94.5% <i>Et<sub>2</sub>COCONHPb</i>, m. 142° (from MePh). I (8 g.) in 16 cc. Et<sub>2</sub>O with iso-AmBr and MgBr (from 3.6 g. Mg and 21.9 g. iso-AmBr) yielded 58.3% (<i>iso-C<sub>12</sub>H<sub>25</sub></i>)<sub>2</sub>C(OH)CONHPb, m. 105° (from dil. H<sub>2</sub>O). I (10 g.) in 20 cc. Et<sub>2</sub>O with PhMgBr (from 4.4 g. Mg and 31.9 g. PhBr) gave 69% <i>Ph<sub>2</sub>C(OH)CONHPb</i>, m. 174-5° (from MePh). I (10 g.) treated with <i>p</i>-Mc<sub>6</sub>C<sub>6</sub>H<sub>4</sub>MgBr (from 8 g. Mg and 35 g. <i>p</i>-Mc<sub>6</sub>C<sub>6</sub>H<sub>4</sub>Br) gave 58% (<i>p</i>-Mc<sub>6</sub>C<sub>6</sub>H<sub>4</sub>)<sub>2</sub>C(OH)CONHPb, m. 152° (from MePh). I (10 g.) in 20 cc. Et<sub>2</sub>O with 1-C<sub>6</sub>H<sub>5</sub>MgBr (from 4.4 g. Mg and 37.6 g. 1-C<sub>6</sub>H<sub>5</sub>Br) gave 50.9% (1-C<sub>6</sub>H<sub>5</sub>)<sub>2</sub>C(OH)CONHPb, m. 226-6° (from C<sub>6</sub>H<sub>6</sub>). If the original anilide is dissolved in concd. H<sub>2</sub>SO<sub>4</sub> and poured into water, a substance, m. above 250°, which is probably a sulfonation product, is obtained.</p> <p style="text-align: right;">G. M. Kusolapoff</p>																																																											
<p>ASS-31A METALLURGICAL LITERATURE CLASSIFICATION</p> <table border="1"> <tr> <td colspan="3">ABOVE DIVISION</td> <td colspan="3">SECOND DIVISION</td> <td colspan="3">SECTION</td> <td colspan="3">3RD DIVISION</td> </tr> <tr> <td>SEARCHED</td> <td>INDEXED</td> <td>SERIALIZED</td> <td>SEARCHED</td> <td>INDEXED</td> <td>SERIALIZED</td> <td>SEARCHED</td> <td>INDEXED</td> <td>SERIALIZED</td> <td>SEARCHED</td> <td>INDEXED</td> <td>SERIALIZED</td> </tr> <tr> <td>S 1 2 3 4 5 6 7 8 9 10 11</td> <td>D 1 2 3 4 5 6 7 8 9 10 11</td> <td>P 1 2 3 4 5 6 7 8 9 10 11</td> <td>S 1 2 3 4 5 6 7 8 9 10 11</td> <td>D 1 2 3 4 5 6 7 8 9 10 11</td> <td>P 1 2 3 4 5 6 7 8 9 10 11</td> <td>S 1 2 3 4 5 6 7 8 9 10 11</td> <td>D 1 2 3 4 5 6 7 8 9 10 11</td> <td>P 1 2 3 4 5 6 7 8 9 10 11</td> <td>S 1 2 3 4 5 6 7 8 9 10 11</td> <td>D 1 2 3 4 5 6 7 8 9 10 11</td> <td>P 1 2 3 4 5 6 7 8 9 10 11</td> </tr> </table>																								ABOVE DIVISION			SECOND DIVISION			SECTION			3RD DIVISION			SEARCHED	INDEXED	SERIALIZED	S 1 2 3 4 5 6 7 8 9 10 11	D 1 2 3 4 5 6 7 8 9 10 11	P 1 2 3 4 5 6 7 8 9 10 11	S 1 2 3 4 5 6 7 8 9 10 11	D 1 2 3 4 5 6 7 8 9 10 11	P 1 2 3 4 5 6 7 8 9 10 11	S 1 2 3 4 5 6 7 8 9 10 11	D 1 2 3 4 5 6 7 8 9 10 11	P 1 2 3 4 5 6 7 8 9 10 11	S 1 2 3 4 5 6 7 8 9 10 11	D 1 2 3 4 5 6 7 8 9 10 11	P 1 2 3 4 5 6 7 8 9 10 11									
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PETUNIN, F. A.

Petunin, P. A., and Panferova, N. G. - "Action of Grignard's Reagent upon the  
Ethers of the N-substituted Amides of Dicarboxylic Acid. I. Reaction of  
Oxanylic Acids with Ethers." (p. 506)

SC: Journal of General Chemistry, (Zhurnal Obozreniya Khimii), 1947, Vol. 17, No. 3.

*CA*

2,4-Dihalo derivatives of resorcinol. II. 2-Chloro-4-bromoresorcinol and its derivatives. P. A. Petrunin and A. S. Kuchina (Molotov Pharmaceutical Inst.), J. Gen. Chem. (U.S.S.R.) 17, 1298-11 (1947) (in Russian); cf C.A. 42, 534f.—5-Bromo-3-chloro-2,4-dihydroxybenzoic acid (II), m. 209° (from dil. EtOH), was prep'd in 85.9% yield by dissolving 16 g. 3,2,4-Br<sub>2</sub>(HO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>O<sub>2</sub>H (II) in 150 cc. warm AcOH, cooling to 30-35°, treating with the caled. amt. of Cl, and washing the ppt. with H<sub>2</sub>O. Evapn of its soln in NH<sub>4</sub>OH gave the NH<sub>4</sub> salt, needles. Addn of BaCl<sub>2</sub> gave the insol. Ba salt. Treatment with AcCl in C<sub>6</sub>H<sub>6</sub> gave 70.3% of the di-Ac deriv., m. 180-1° (from 70% EtOH). I (10 g.) in 50 cc. H<sub>2</sub>O, boiled 6 hrs. and end. with Et<sub>2</sub>O, gave 51% 2-chloro-4-bromoresorcinol (III), m. 53.5° (with 1 H<sub>2</sub>O), slowly distillable with steam; the above monohydrate loses H<sub>2</sub>O on standing over H<sub>2</sub>SO<sub>4</sub> and m. 76.5°. This (1.2 g.) in 10 cc. H<sub>2</sub>O treated with 1-2 drops H<sub>2</sub>SO<sub>4</sub> and 0.9 g. Br in 15 cc. H<sub>2</sub>O gave 77% 3-chloro-4,6-dibromoresorcinol, m. 86° (from H<sub>2</sub>O). III (2 g.) in 10 cc. C<sub>6</sub>H<sub>6</sub>, treated with 1.4 g. AcCl gave 65.4% di-Ac deriv., m. 82.5° (from petr. ether). To 1.2 g. Na in 30 cc. abn. EtOH were added 5.8 g. III and 10 g. Et<sub>2</sub>O to give 48.6% di-Et ether, bp 231-2°, d<sup>20</sup> 1.4202, n<sub>D</sub><sup>20</sup> 1.5300. III (1 g.) with diazotized PhNH<sub>2</sub> (0.4 g.) in 15 cc. H<sub>2</sub>O contg. 3 g. NaOAc gave 68.5% 3-chloro-5-bromo-2,4-dihydroxybenzoic, cherry-red, m. 184° (from dil. EtOH), insol. in H<sub>2</sub>O. A molten mixt of 1.4 g. phthalic anhydride and 4.3 g. III treated with 1 g. ZnCl<sub>2</sub>

and heated to 200-15° gave 76.2% 4,5-dichloro-2,7-dibromofluorescein, m. above 300° (from AcOH). brick-red; alk. solns. are green-yellow. Since dihalo derivs. of  $\beta$ -resorcylic acid form Ba salts which are poorly sol. in water in contrast to those of monohalo derivs., this affords a sepr. method, illustrated for monohalo derivs., this II and 0.6781 g. 3,5,2,4-Br<sub>2</sub>(HO)<sub>2</sub>C<sub>6</sub>H<sub>3</sub>O<sub>2</sub>H (IV) were mixed, treated with 10% NH<sub>4</sub>OH, freed of excess NH<sub>4</sub>Cl, washed with H<sub>2</sub>O, and heated to boiling. The ppt. with 2 N HCl, gave 91.80% IV, m. 220° (from water). The filtrate, acidified with 2 N HCl, gave 69.65% II, m. 204° (from water). III. 2-Bromo-4-chlororesorcinol and its derivatives. *Ibid.* 1351-5.—To 15 g. dry  $\beta$ -resorcylic acid in 50 cc. H<sub>2</sub>O was added 15 g. SO<sub>2</sub>Cl in 20 cc. Et<sub>2</sub>O, after heating on a steam bath until HCl evolution was complete, evapn of the solvent left a residue, m. 210-12°, which on boiling 1 hr. with 300 cc. H<sub>2</sub>O gave 70.9% 5-chloro-2,4-dihydroxybenzoic acid (II), decom. 215, 18°, on cooling. The same product was obtained from 10 g. 4-chlororesorcinol in 50 cc. H<sub>2</sub>O heated 1.5 hr. on a steam bath with 40 g. KHC<sub>8</sub>O<sub>4</sub>, followed by acidification. Treatment with AcCl in dry

benzene gave 42% of the di-Ac deriv., m. 184° (from dil.  $\text{H}_2\text{O}$ ). I (0.8 g.) in 50 cc. AcOH, treated with 6.1 g. Br in 10 cc. AcOH, then dried with 200 cc.  $\text{H}_2\text{O}$ , gave 64.5% 3-bromo-5-chloro-2,4-dihydroxybenzoic acid, m. 210-11° (decompn.); from dil. EtOH;  $\text{NH}_3$  soln, white needles; admn. of  $\text{BaCl}_2$  to a soln. of the  $\text{NH}_3$  salt gave the insol.  $\text{Ba salt}$ . The acid with  $\text{AcCl}$  in benzene gave the di-Ac deriv., m. 180.5° (from dil. EtOH). The acid (20 g.) in 200 cc.  $\text{H}_2\text{O}$ , boiled 7 hrs., extd. with  $\text{Et}_2\text{O}$ , and the ext. concd., gave 78.7% 2-bromo-4-chlororesorcinol- $\text{H}_2\text{O}$  (II) m. 78.5° (from  $\text{H}_2\text{O}$ ), drying over  $\text{HgSO}_4$ , gave the anhyd. product, m. 103.5°; the product is poorly volatile with steam and gives a violet color with  $\text{FeCl}_3$ . II (1.1 g.) in 15 cc.  $\text{H}_2\text{O}$ , treated with 1-2 drops concd.  $\text{H}_2\text{SO}_4$ , followed by 0.8 g. Br in water, gave 64.3% 2,6-dibromo-6-chlororesorcinol, m. 103-4° (from  $\text{H}_2\text{O}$ ); treatment with  $\text{AcCl}$  in benzene gave the di-Ac deriv., m. 76° (from petr. ether). A diazonium soln. from 0.4 g.  $\text{PhN}_3$ , added to 1.1 g. II and 3 g. crystd.  $\text{NaOAc}$  in 15 cc.  $\text{H}_2\text{O}$  gave 56.2% 3-bromo-5-chloro-2,6-dihydrazosobenzoic acid, m. 177-8° (from dil. EtOH), deep red needles. II (4.3 g.) with 1.4 g. phthalic anhydride in the presence of 1 g.  $\text{ZnCl}_2$  gave 4,5-dibromo-2,7-dichlorofluorescein (63.2%), m. above 300° (from AcOH), brick-red; alk. solns. have a yellow-green fluorescence. G. M. K.

PETYUNIN, P.A., ZAKALYUZHNYY, M.V.

Oxamyl and amides and hydrazides. Part II: Oxaminoxy hydrazides and  $\delta$ - $\alpha$ -hydrazides of  $\beta$ -substituted oxamyl acids. Zhur. khim. i nizkotemperaturnoy cherny (MIRA) 1982

1. Permek farmacevticheskoy promst. Krasnodarskaya farma-  
cevticheskaya promst.

PETUNIN, P. A.

Petunin, P. A., and Kuchina, A. S.- "2,4-Dialogen substituted of Resorcin.  
II. 2-Chloro-4-Bromore-sorcine and its Derivatives". (p. 1211)

SO: Journal of General Chemistry, (Zhurnal Obshchei Khimii), 1947, Vol. 17, No. 6

PETYUNIN, P. A.

IA 15T44

USSR/Chemistry - Resorcinol  
Chemistry - Resorcylic acid

Feb 1947

"2,4-Halogen-substituted Resorcinol: 1,2,4-Dichlororesorcinol and Its Derivatives," P. A. Petyunin, A. S. Kuchina, 5 pp

"Zhur Obshch Khim" Vol XVII, No 2

Method of obtaining 2,4-dichlororesorcinol, and study of its properties. The method is chlorination with beta-resorcylic acid.

15T44

PETYUNIN, P. A.

188T22

USSR/Chemistry - Pharmaceuticals

USSR/Chemistry - Pharmaceuticals

Aug 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. II. Naphthalides of  $\alpha$ -Hydroxycarboxylic Acids," P. A. Petyunin, N. G. Panferova, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXI, No 8, pp 1528-1532

Study of reaction of org Mg compds with Et esters of  $\alpha$ - and  $\beta$ -naphthylhydroxyamino acids showed that, depending on proportions of reagents, chief products are naphthalides of  $\alpha$ -ketono- or  $\alpha$ -hydroxycarboxylic acids. Prep number of  $\alpha$ - and  $\beta$ -naphthalides of above carboxylic acids and studied properties. Authors recommend this method of synthesis.

188T22

USSR /Chemistry - Pharmaceuticals

Aug 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. III. Reaction of Organic Magnesium Compounds With Esters of O-Methoxy-Malonanylic and Succinanylic Acids. Synthesis of Anilides of gamma-Hydroxycarboxylic Acids," P. A. Petyunin, N. G. Panferova, Lab of Org Chem, Molotov Pharm Inst

"Zhur Obshch Khim" Vol XXI, No 8, pp 1533-1537

O-Methoxymalonanylic ester apparently reacts with org Mg compds in enolic form, but is isolated in unchanged condition on decompr of reaction mass.

In reaction of succinanylic ester with org Mg

188T23

USSR /Chemistry - Pharmaceuticals (Contd)

Aug 51

comps, only carbethoxyl group takes part. with formation of anilides of gamma-hydroxycarboxylic acids. By this method, recommended by authors and unimpeded by steric hindrance, perpd several anilides of gamma-hydroxycarboxylic acids, not described in article.

PETYUNIN, P. A.

188T23

PETYUNIN, P. A.

191T51

USSR/Chemistry - Synthetic Pharma-

ceuticals

Sep 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. IV. Mechanism of the Reaction of Organic Magnesium Compounds With Esters of N-Aryl-Substituted Amides of Dicarboxylic Acids," P. A. Petyunin, N. G. Panferova, Lab Org Chem, Molotov Pharm Inst

"Zhur Obsch Khim" Vol XXI, No 9, pp 1699-1703

Proposes mechanism for reaction of org Mg compds with esters of N-aryl-substituted amides of dicarboxylic acids. Proposes new scheme for reaction of Et oxamate with PhMgBr. Establishes that

191T51

USSR/Chemistry - Synthetic Pharma-  
ceuticals (Contd) Sep 51

PhMgBr reacts with amide of benzylic acid with replacement of amino group by a radical, which may be of interest as new means for prepn of tert alcs.

191T51

1) V.V.M., L. L.

"N-aryl analogs of cyclopropanes with cyclic ether substituents. Part 2. Reactions of N-phenyl-2-phenylcyclopropane with substituted phenyl-  
B, n, tetrahydrofuran. I. . . nitrocellulose, 1973,

See: Journal of General Chemistry, USSR, Vol. 45, No. 7, 1973, p. 1571.

USSR/Chemistry - Pharmaceuticals

Oct 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. VI. Structure of Intramolecular Condensation Products of  $\alpha$ - and  $\beta$ -Naphthalides of  $\alpha$ -Hydroxycarboxylic Acids," P. A. Petyunin, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXI, No 10, pp 1853-1859

Found that intramol condensation of  $\alpha$ -naphthalides [ $n$ -naphthylamides]/ $\alpha$ -hydroxycarboxylic acids yields products of  $\alpha$ - $\beta$ -condensation, or peri-condensation when  $\beta$ -position is occupied.

194733

USSR/Chemistry - Pharmaceuticals (Contd)

Oct 51

$\beta$ -naphthalides of the acids also yield products of  $\alpha$ - $\beta$ -condensation, or  $\beta$ - $\beta$ -condensation when  $\alpha$ -position is occupied. Freed number of Br-derivs (not described in literature) or  $\alpha$ - and  $\beta$ - naphthyloxamino esters,  $\alpha$ - and  $\beta$ naphthalides of benzoic acid, 3, 3-diphenyl- $\alpha$ -and  $\beta$ -naphthoxyindoles, and other compds. Studied their properties.

194733

USSR/Chemistry - Pharmaceuticals

Oct 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. VII. Intramolecular Condensation of Arylamides of p, p-Ditolyglycolic Acid," P. A. Petynin, I. S. Berdinsky, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXI, No 10, pp 1859-1867

Worked out method for prepn of p-tolylisatin and its derivs. Prep'd number of compds not described in literature. Prep'd number of arylamides of p, p-ditolyglycolic acid and studied their properties. Studied effect of nature of radicals at the

194T34

USSR/Chemistry - Pharmaceuticals (Contd) Oct 51

N and the C of the COH group on rate of intramol condensation and dependence of optimum amt of H<sub>2</sub>SO<sub>4</sub> for condensation on reaction temp and structure of arylamides of  $\alpha$ -hydroxycarboxylic acids.

194T34

PETYUNIN P. A.

PA 194T49

USSR/Chemistry - Pharmaceuticals

Nov 51

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. VIII. Intramolecular Condensation of Arylamides of m, m-Ditolylglycolic Acid," P. A. Petyunin, I. S. Berdinsky, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXI, No 11, pp 2016-2018

Worked out method for prepn of m-tolylisatin and its derivs. Prep'd number of compds not described in the literature. Prep'd series of arylamides of m, m-ditolylglycolic acid and studied their properties.

194T49

PETYUNIN P. A.

Nov. 51

USSR/Chemistry - Pharmaceuticals

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds.  
IX. Intramolecular Condensation of Arylamides of o, o'-ditolylsuccinic Acid," P. A. Petrunin,  
I. S. Berdinsky, Lab. of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol VI, No 11, pp 2019-2022

Worked out method for prepn of o-Tolylisatin and its derivs. Prepnd number of compns not  
described in the literature. In contrast to known methods for prepn of 3, 3-diaryl derivs  
of hydroxyindole intramol condensation of arylamides of o-hydroxycarboxylic acids make  
possible prepn of derivs with substituents in any position on aryl.

PA 194T50

PA 194T66

PETYUNIN P. A.

USSR/Chemistry - Halochromium  
Pharmaceutical Inter-  
mediates

Dec 51

"N-Arylamides of Hydroxycarboxylic Acids and Their  
Conversion to Heterocyclic Compounds. X. Equili-  
brium Between Carbonium and Ester Forms in Colored  
Sulfuric Acid Solutions of Arylamides of Hydroxy-  
carboxylic Acids," P. A. Petyunin, Lab of Org  
Chem, Molotov Phar Inst

"Zhur Obsch Khim" Vol XII, No 12, pp 2193-2196

Demonstrated that in colored  $H_2SO_4$  solns of aryl-  
amides of hydroxycarboxylic acids there is equil-

194T66

USSR/Chemistry - Halochromium  
Pharmaceutical Inter-  
mediates (Contd)

Dec 51

between ester (colorless) and carbonium (colored)  
forms. Attempted to use chem method for quant  
detn of these forms in equil system. Studied  
effect of amt of  $H_2SO_4$  on system.

194T66

USSR/Chemistry - Pharmaceuticals

Feb 52

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion into Heterocyclic Compounds. XI. Intramolecular Condensation of Arylamides of 2,2'-N-methoxydiphenylglycolic Acid," P. A. Petyunin, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXII, No 2, pp 190-195

By New method for prepn of o-dianisalatin and its derivs, prep number of compds not described in literature. Studied their properties. On example of condensation of arylamides of 2,2'-dimethoxydiphenylglycolic acid (I), showed that (a) there is no strict dependence among increase of basic

202713

USSR/Chemistry - Pharmaceuticals (Contd)

Feb 52

properties of arylamides, deepening of color of their halochromic salts, and rate of intramol condensation; and (b) steric effects caused by presence of methoxy groups in o-positions to carbino<sup>l</sup> atom, has influence on rate of intramol condensation and on principal properties of arylamides. Explained latter phenomenon. Prep number of arylamides of I not described in literature. Studied their properties.

202713

USSR/Chemistry - Pharmaceuticals

Feb 52

"*m*-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. XI. Intramolecular Condensation of Arylamides of 4,4'-Dimethoxydiphenylglycolic Acid," P. A. Petyunin, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXII, No 2, pp 296-302

Developed new method for prepn of p-dianisobolstatin and its derivs. Prep number of derivs not described in the literature and studied their properties. Intramol condensation of *m*-bromoanilide of 4,4'-dimethoxydiphenylglycolic acid (I) proved that,

209T27  
Feb 52

USSR/Chemistry - Pharmaceuticals (Contd)

when there is a substituent in *m*-position condensation of radical at N, tends to take place at *p*-position to substituent. Condensation of arylamides of I in presence of  $H_2SO_4$ ,  $H_3PO_4$ , HCl showed that condensation depends not on nature of inorg acid anion, but on structure of org cation.

209T27

USSR/Chemistry - Synthetic Drugs

Apr 52

"N-Arylamides of  $\alpha$ , $\beta$ -hydroxycarboxylic acids and their conversion to Heterocyclic Compounds XIII. The use of various Dehydrogenation Agents for intramolecular Condensation of Arylamides of  $\alpha$ -Hydroxy-carboxylic Acids." P. A. Petyunin, Inst of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXII, No 4, pp 691-699

The following substances were investigated for their suitability as condensing media: AlCl<sub>3</sub>, ZnCl<sub>2</sub>, HSO<sub>3</sub>Cl, POCl<sub>3</sub>, (CH<sub>3</sub>CO)<sub>2</sub>O, and CH<sub>3</sub>COCl. Anhydrous zinc chloride was found to be fully suitable. However, as compared to sulfuric acid, the reaction

224T50

proceeds at a higher temp, the product is less pure and the yield lower. In presence of POCl<sub>3</sub>, the arylamides are condensed which will form halo chromic salts with HCl or H<sub>3</sub>PO<sub>4</sub>. It was demonstrated on the example of the reaction between POCl<sub>3</sub> and  $\beta$ -naphthylide or benzylic acid, that arylamides of diphenyl-chloroacetic acid can be obtained.

Petyunin, P. A.

224T50

PETYUNIN, P.A.

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USSR/Chemistry - Synthetic Drugs

Apr 52

"N-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds XIV. Limits of Intramolecular Condensation of Arylamides of Hydroxycarboxylic Acids," P. A. Petyunin, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXII, No 4, pp 700-702

The limits of intramolecular condensation were detd as precisely as possible and their dependence on the nature of the radicals attached to the carbon atom of the carboxyl group was studied.

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224T51

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PETYUNIN, P. A.

USSR/Chemistry - Synthetic Drugs

Jun 52

"n-Arylamides of Hydroxycarboxylic Acids and Their  
Conversion Into Heterocyclic Compounds. XV. The  
Mechanism of Intramolecular Condensation," P. A.  
Petyunin, Lab of Org Chem, Molotov Phar Inst

"Zhur Obshch Khim" Vol XXII, No 6, pp 975-979

A mechanism of the intermol condensation of n-aryl-  
amides of hydroxycarboxylic acids is given and its  
exptl basis established. On the examples of anilide  
and  $\beta$ -naphthalide of diphenylchloroacetic acid,  
the capacity of arylamides of this acid to undergo  
an intramol condensation reaction with formation of  
oxindole derivs was established.

218720

## USSR /Chemistry - Synthetic Drugs

Jun 52

"n-Arylamides of Hydroxycarboxylic Acids and Their Conversion Into Heterocyclic Compounds. XVI. Synthesis of Arylamides of  $\beta$ ,  $\beta$ -Diphenyl- $\beta$ -Hydroxypropionic Acid," P. A. Petyunin, A. S. Pesis, Lab of Org Chem Molotov Phar Inst

"Zhur Obshch Khim" Vol XXII, No 6, pp 979-981

On the example of the reaction between aryl halide magnesyl amines ( $RNH_2MgX$ ) and the ethyl ester of  $\beta$ ,  $\beta$ -diphenyl- $\beta$ -hydroxypropionic acid, a method for prep arylamides of  $\beta$ -hydroxycarboxylic acids

218r21

## USSR /Chemistry - Synthetic Drugs (Contd)

Jun 52

was developed. A series of arylamides of  $\beta$ ,  $\beta$ -diphenyl- $\beta$ -hydroxypropionic acid not previously described was obtained, and the properties of these compds were studied.

218r21

"APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240710012-3

...ESIS, A. S.

Propionic Acid

N-Arylamides of hydroxycyclic acids and their transformation into heterocyclic compounds.  
Part 17. Intromolecular condensation of imidamides of B,B-diphenyl-*B*-hydroxypropionic acid. Zhur. ob. khim. 22 no. 7, 1952

Monthly List of Russian Accessions, Library of Congress, November 1952, Unclassified.

APPROVED FOR RELEASE: 06/15/2000

CIA-RDP86-00513R001240710012-3"

PETYUNIN, P.A.; PANFEROVA, N.G.; BERDINSKIY, I.S.

N-Arylamides of hydroxy carboxylic acids and their transformation into heterocyclic compounds. XVIII. Connection between hydrolysis of arylamides of  $\alpha$ -,  $\beta$ - and  $\gamma$ -hydroxycarboxylic acids and the ease of the closure of heterocycle from them. Zhur. Obshchey Khim. 22, 1677-9 '52. (MLRA 5:9) (CA 47 no.19:9941 '53)

PETYUNIN, P. A.

CATALYST

Chemical Abst.  
Vol. 48 No. 8  
Apr. 25, 1954  
Organic Chemistry

*(Catalyst)*

*1. N-Aryl amides of hydroxy carboxylic acids and their transformation into heterocyclic compounds. XX. Regioselectivities of intramolecular ring closure in aryl amides of hydroxy carboxylic acids.* P. A. Petynin and V. S. Shul'nev (Pharm. Inst., Molotov). *Zhur. Osn. i Prikl. Khim.* 25, 503-60 (1953); cf. Yankovich and Ginsburg, *C.A.* 47, 6254g; preceding abstr. — The rate of ring closure in aryl amides of HO carboxylic acids declines regularly as the ring size increases from 5 to 8 members. Generally the presence of electron-accepting groups in the Ph radicals at the carbipol C permits ring closure of larger rings than is possible in the presence of electron-donor substituents. Org. compds. that cyclize by an ionic mechanism do not require diln. for isolation of the mols., as the presence of the charge represses internal reactions.  $\text{SnCl}_4$  is a good reagent for ring closure in this series.  $\text{PhCH}_2\text{CH}_2\text{CHMeNH}_2$  (10 g.) in 20 ml.  $\text{EtOH}$  heated with 20 g.  $(\text{CO}_2\text{Et})_2$  and until neutral gave 2.8% sparingly sol.  $N,N'$ -bis(1-methyl-3-phenylpropyl)oxamide, m. 170-2° (from EtOH). The filtrate yielded 51% Et ( $\alpha$ -methylphenyl)oxamate (I), b. 183.5-5°, d<sub>4</sub> 1.0821,  $n_D^{20}$  1.5135, which with  $\text{NH}_3$  in EtOH gave 91% corresponding oxamide, m. 180° (from EtOH). I with 0.5 mole  $\text{PhMgBr}$  gave 55.5%  $N$ -( $\alpha$ -methylphenyl)benzamide, m. 83° (from 70%  $\text{EtO}_2\text{N}$ ). This (1 g.) in 0.5 ml.  $\text{AcOH}$  and 17 ml. concd.  $\text{H}_2\text{SO}_4$  gave a brown soln. which turned green, then orange-yellow; diln. with 50 ml.  $\text{H}_2\text{O}$  gave 52%  $\alpha$ -(3-geminobutyl)butyric acid lactam, m. 153°

*(over)*

(from AcOH). Treatment of  $\text{PhCH}_2\text{NHCOCO}_2\text{Et}$  with 4 moles  $\rho\text{-MeC}_6\text{H}_4\text{MgI}$ , m. 13.7%,  $\alpha\text{-}(o\text{-methylbenzyl)-}p\text{-toluidide, PhCH}_2\text{NHC(O)(CO}_2\text{OH)}(\text{C}_6\text{H}_4\text{Me}-p)_2$ , m. 112° (from  $\text{C}_6\text{H}_6$ ).  $\beta\text{-MeOC}_6\text{H}_4\text{MgI}$  in the above case gave 29%  $4,4'\text{-dimethoxy-N-(o-methylbenzyl)benzilamide}$ , m. 90° (from EtOH).  $\text{PhCH}_2\text{CH}_2\text{NHCOCO}_2\text{Et}$  and 5 moles  $\rho\text{-MeOC}_6\text{H}_4\text{MgI}$  gave 43%  $\beta\text{-4,4'-dimethoxy-N-phenethylbenzilamide}$ , m. 107-8° (from EtOH). Neither of these 2 amides cyclized in  $\text{AcOH-H}_2\text{SO}_4$  even after 120 hrs., the original red color being maintained in the soln. Brief heating of 5.5 g.  $\rho\text{-BzC}_6\text{H}_4\text{CO}_2\text{Me}$  and  $\text{PhNHMgBr}$  (from 1.5 g. Mg, 5.1 g.  $\text{PhNH}_2$ , 5.5 g. EtBr) gave  $\rho\text{-BzC}_6\text{H}_4\text{CONHPH}$ , m. 163-4° (from MePh), which with 0.8 mole  $\text{PhMgI}$  gave 80%  $\text{Ph}_2\text{C(OH)C}_6\text{H}_4\text{CONHPH-p}$ , m. 182°, gives a yellow color with 70%  $\text{H}_2\text{SO}_4$  and no color with  $\text{HCl}$ , and did not cyclize in  $\text{AcOH-H}_2\text{SO}_4$  even after 0.5 hr. on a steam bath. ( $\rho\text{-MeOC}_6\text{H}_4\text{C(OH)CONHC}_6\text{H}_4\text{OEt-p}$  (2 g.) and 0.8 g. PhOH in 20 ml.  $\text{C}_6\text{H}_6$  were briefly warmed with 2 g.  $\text{SnCl}_4$  until the red-violet color vanished; on cooling and diln., the org. layer yielded 78%  $3,3\text{-bis}(\rho\text{-methoxyphenyl)-5-ethoxy-oxindole}$ , m. 179-80° (cf. C.A. 46, 11161e). Similar treatment of  $1\text{-C}_6\text{H}_5\text{NHCOC(OH)Ph}$  (1.5 g.) with 0.5 g. resorcinol and 2 g.  $\text{SnCl}_4$  in  $\text{C}_6\text{H}_6$  gave 98%  $3,3\text{-diphenyl-6,7-benzoxindole}$ , m. 254° (cf. C.A. 43, 8070). Benzilanilide (3 g.), 1.1 g. PhOH, and 3 g.  $\text{SnCl}_4$  similarly gave 75.5%  $3,3\text{-diphenyloxindole}$ , m. 225°. The relative rates of ring closures at 20° are as follows: For  $\text{Ph}_2\text{C(OH)CONHR}$  ( $\text{R}$  given): Ph 400,  $\text{PhCH}_2\text{CH}_3$  328,  $\text{PhCH}_2\text{CH}_2$  240,  $\text{PhCH}_2\text{CH}_2\text{CH}_3$  60. For  $(\rho\text{-MeC}_6\text{H}_4)_2\text{C(OH)CONHR}$ : Ph 12 (with 0.3 the amt. of  $\text{H}_2\text{SO}_4$  in comparison with above examples), Ph 43 (at 30°),  $\text{PhCH}_2\text{CH}_3$  13.6 (at 30°),  $\rho\text{-MeOC}_6\text{H}_4\text{NHCOC(OH)}(\text{C}_6\text{H}_4\text{OMe}-p)_2$  at 20° with 0.02 the amt. of  $\text{H}_2\text{SO}_4$ ; its  $\text{PhCH}_2\text{CH}_3$  and  $\text{PhCH}_2\text{CH}_2\text{CH}_3$  analogs did not cyclize.

G. M. Kosolapoff

PETYUNIN, P.A.

*N-Aryl amides of hydroxy carboxylic acids and their transformation into heterocyclic compounds. XX. Regioselectivity of intramolecular ring closure in aryl amides of hydroxy carboxylic acids. I. P. A. Petyunin and V. S. Shlykov.*  
*J. Gen. Chem. U.S.S.R.* 1965, v. 35, p. 2203-2207  
U.S. C.I., 48, 4439. H. L. H.

PET (JUN), MA

C A. V-48  
Jan 10, 1954  
Organic Chemistry

The effect of the nature and the position of substituents in phenyl radicals of  $\text{ArNHCOC(OH)Ar}'$  on the closure of five-membered heterocycle. XIX. P. A. Pecar, C. and V. S. Shlyamov. Zhur. Obshch. Khim. 23, 1301-70 (1953); cf. C.I. 47, 7480. In nature and the position of substituents in  $\text{Ar}'$  group of  $\text{ArNHCOC(OH)Ar}'$ , detus. the rate of ring closure of tropo-acceptor groups increase the electrophilic nature of the carbonium C atom and increase the rate of closure; at the same time the rate declines in the order: *m*, *o*, *p* with variation of the site of the substituents. Carbinols in which all

4 *o*-positions in  $\text{Ar}'$  radicals are occupied do not undergo ring closure owing to steric hindrance. The rates of closure of rings in the  $N'$ -1-bromo-2-naphthyl-*n*-butyl-glycocolamide and  $N'$ -2-naphthyl-*n*-butyl-glycocolamide are the same; the fact is explained by weakening of the nucleophilic center caused by electron-releasing function of the *tert*-atom. The rate of closure of 2-C<sub>14</sub>-NHCOC(OH)<sub>2</sub>CH<sub>2</sub>OMe<sub>2</sub> is 0.25 of that of the 1-C<sub>14</sub>-radical at 20°. In a present series in which the rate of closure of  $\text{s-MeOC}_2\text{H}_2\text{NHCOCH}_2\text{COOH}$  is taken as 1, the following rates are found ( $\text{Ar}' = \text{Ph}$ ):  $\text{Ar}'$  rate given: *m*-C<sub>6</sub>H<sub>5</sub>, very high; *p*-Cl analog, 12.5%; *p*-Br analog, 5%; *p*-Me analog, 12%; *o*-Me analog, 1800. To *m*-C<sub>6</sub>H<sub>5</sub>MgI from 42.5 g. *m*-C<sub>6</sub>H<sub>5</sub>I and 4.4 g. MgI was added 7.7 g. PhNHCOCH<sub>2</sub>COOH; the usual treatment gave 40% 1-C<sub>14</sub>-*Ph*.  $\text{Ar}' = n-C<sub>6</sub>H<sub>5</sub>: II, in 170.4% 1-C<sub>14</sub>-*Ph*; similarly in 55% *n*-*Ph*, *m*-181.5-2.5%, the *p*-*Br* analog, 32.57%, in 192.4%. Use of Et<sub>2</sub>-1-naphthylvinylamide similarly gave 46.8% 1-C<sub>14</sub>-Et<sub>2</sub>-Ar.  $\text{Ar}' = n-MeOC<sub>2</sub>H<sub>5</sub>, in 151.2-5.5% Et<sub>2</sub>methoxyacetate and methoxymagnesium bromide gave 22%;  $\text{Ar}' = n-MeOC<sub>2</sub>H<sub>5</sub>,  $\text{Ar}'' = 2,4$ -di-*Me*C<sub>6</sub>H<sub>3</sub>, in 162.4%, which failed to close the ring even after 3 hrs. heating with H<sub>2</sub>SO<sub>4</sub>. Passage of NH<sub>3</sub> into *N'*-1-(*tert*-butyl-2-naphthyl)-*o*-nitrophenylmagnesium bromide, in 210.2% from C<sub>6</sub>H<sub>6</sub>, ether, to heat, in 158.5% 1-C<sub>14</sub>-radical gave the product in 158.0% yield. From C<sub>6</sub>H<sub>6</sub>, *p*-nitrophenyl ester with *n*-MeOC<sub>2</sub>H<sub>5</sub>, in 181.5% 1-C<sub>14</sub>-radical gave 22%;  $\text{Ar}' = p$ -MeOC<sub>2</sub>H<sub>5</sub>, in 158.0% 1-C<sub>14</sub>-radical, even if H<sub>2</sub>SO<sub>4</sub> gave a red color, the radical appeared rapidly, dilution with H<sub>2</sub>O gave 22% 1-C<sub>14</sub>-radical, the yield was 20% in 218.9% from Ar. From *p*-nitrophenyl ester with *n*-MeOC<sub>2</sub>H<sub>5</sub>, in 180.0% 1-C<sub>14</sub>-radical gave 22%;  $\text{Ar}' = p$ -MeOC<sub>2</sub>H<sub>5</sub>, in 158.0% 1-C<sub>14</sub>-radical, even if H<sub>2</sub>SO<sub>4</sub> gave a red color, the radical appeared rapidly, dilution with H<sub>2</sub>O gave 22% 1-C<sub>14</sub>-radical, the yield was 20% in 218.9% from Ar. *p*-Bromophenyl ester with *n*-MeOC<sub>2</sub>H<sub>5</sub>, in 180.0% 1-C<sub>14</sub>-radical gave 22%;  $\text{Ar}' = p$ -Br, in 158.0% 1-C<sub>14</sub>-radical, even if H<sub>2</sub>SO<sub>4</sub> gave a red color, the radical appeared rapidly, dilution with H<sub>2</sub>O gave 22% 1-C<sub>14</sub>-radical, the yield was 20% in 218.9% from Ar.$$$

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3/3

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7-24-54

Petrovkin, P. A.

The Committee on Stalin Prizes (of the Council of Ministers USSR) in the fields of science and inventions announces that the following scientific works, popular scientific books, and textbooks have been submitted for competition for Stalin Prizes for the years 1952 and 1953. (Sovetskaya Kultura, Moscow, No. 22-40, 20 Feb - 3 Apr 1954)

<u>Name</u>	<u>Title of Work</u>	<u>Nominated by</u>
Petrovkin, P. A.	"Sovremennye i sovremennoe voprosy fiziki i radiofiziki"	Institute of Physics Institute

SO: W-30604, 7 July 1954

PETYUNIN, P.A.

USSR/Chemistry - Reaction processes

Card 1/1 Pub. 151 - 33/36

Authors : Petyunin, P. A.; Berdinskiy, I. S.; and Shklyaev, V. S.

Title : Reaction of N,N'-bis-(magnesium halide)-aryl amines with esters and acid halides

Periodical : Zhur. ob. khim. 24/1, 178-180, Jan 1954

Abstract : A study of the reaction between N,N'-bis-(magnesium halide)-aryl amines and esters and acid halides showed that the aryl amines react like dimagnesium-organic compounds. It was established that the reaction between esters and N,N'-bis-(magnesium halide)-aryl amines has certain advantages and was therefore recommended for the synthesis of aryl amides of mono-and dibasic acids, halogen-, hydroxy- and alpha,beta-unsaturated acids. The possibility of applying this reaction for the synthesis of dibenzoyl derivatives of aromatic amines is discussed. Six references: 4-German; 1-French and 1-USSR (1904-1952). Table.

Institution : The Molotov Pharmaceutical Institute, Laboratory of Organic Chemistry

Submitted : July 2, 1953

PETYUNIN, P. A.

USSR/Chemistry

Card 1/1

Authors : Petyunin, P. A., Shklyaev, V. S., and Berdinskiy, I. S.

Title : Effect of Nature and Position of the Substituents in the Benzene Nucleus, in the Case of Nitrogen on the Closing of the Five-Membered Heterocycle in Arylamides of Oxycarboxylic Acids. Part 21. -

Periodical : Zhur. Ob. Khim., 24, Ed. 6, 1078 - 1082, June 1954

Abstract : The effect of nature and position of substituents in the benzene nucleus in the case of nitrogen on the closing of a five-membered heterocycle in arylamides 4, 4'-dimethoxybenzilic acid, was investigated. It was established that the rate of cycle closing, under the effect of various substituents, decreases in the following order:  $\text{CH}_3\text{O} > \text{CH}_3 > \text{J} > \text{Br} > \text{Cl} > (\text{CH}_3)_2\text{NH}$ . The introduction of electron donor substituents increases the rate of cycle closing. New, hitherto unknown, arylamides of 4, 4'-dimethoxybenzilic acid and derivatives of 3, 3-bis-(4-methoxyphenyl)-oxindol, were obtained and their properties investigated. Six references. Table.

Institution : The Pharmaceutical Institute, Molotov.

Submitted : January 3, 1954

Petyunin, P. A.

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Synthesis of diaromatic acids and their anilides based on the anilides of diarylglycolic acids. P. A. Petyunin, I. S. Berdinskii, and N. G. Panferova (Pharmaceutical Chemistry). Zhur. Obshchey Khim. 23, 180-83; J. Gen. Chem. (U.S.S.R.) 25, 173-N (1955) (Engl. translation); cf. C.A. 49, 8889d. To 1 g. benzilic acid anilide in 10 ml. AcOH was added 0.5 g. iodine, 1 g. red P, and 0.8 ml. H<sub>2</sub>O; after refluxing 2.5 hr., the mixt. was filtered into 60 ml. H<sub>2</sub>O and a little Na<sub>2</sub>SO<sub>4</sub>; the resulting ppt. was washed with 10% Na<sub>2</sub>CO<sub>3</sub> and the residue gave 0.44 g. PhCHCONHPh, m. 180°, while acidification of the soln. gave 0.46 g. PhCH<sub>2</sub>CO<sub>2</sub>H, m. 145°. Similarly were prep'd.: 60.5% (*p*-Me-C<sub>6</sub>H<sub>4</sub>)CHCONHPh, m. 168.5°, and 22.1% free acid, m. 144°; *m*-isomer, free acid (74.5%), m. 100-2°, and anilide (9.4%), m. 139-40°; *c*-isomer, free acid (13.8%), m. 155.5-7°, and anilide (51.2%), m. 171°; (*p*-*Bz*C<sub>6</sub>H<sub>4</sub>)CHCONHPh, 23.9%, m. 194-5.5° [free acid (39%) m. 180-82°]; *p*-Cl-anilide, free acid (52.1%), m. 166-7°, and its anilide (18.8%), m. 201-5° (decompn.). G. M. Kosolapov.

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Petyunin, P. A.

✓ Chemistry of heterocycles. XIII. Synthesis of  $\gamma$ -phenylcaridines based on 2-aminotriphenylcarbinol and the mechanism of this transformation. V. A. Petyunin, N. G. Panferova, and M. E. Koushin (Pharm. Inst., Molotov). Zhur. Obshchey Khim. 26, 169-91; J. Gen. Chem. U.S.S.R. 26, 163-5 (1966) (Engl. translation); cf. C.A. 64, 10097/Lehimstedt und Dostal; C.A. 33, 5403. Refluxing 1 g. 2-aminotriphenylcarbinol in 1 ml. PhNO<sub>2</sub> 5 min., cooling, adding 10% HCl (15 ml.), steam distg., and adding 10% NaOH gave *o*-phenylcaridine, m. 184-5°. Anal., m. 227-8°. The yield is 87% after 5 min., 97% after 1 hr., and 80% in 2 hrs. Larger amounts of PhNO<sub>2</sub> tend to decrease the yield; best yields result from 1:1 wt. ratio. In PuCl the yield is very small even after 5 hrs. heating; addition of *m*-C<sub>6</sub>H<sub>4</sub>(NO<sub>2</sub>)<sub>2</sub>, however raises the yield to 93%. A mechanism is suggested.

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PETYUNIN, P.A.

Chemistry of heterocycles. XXV. Synthesis of 9-phenylacridine from acyl derivatives of 2-aminotriphenylcarbinol. P. A. Petyunin, N. G. Panislova, and M. G. Koslina (Pharm. Inst. Molotov). Zhur. Obshchey Khim. 26, 2050-2 (1956); cf. C.A. 50, 13020a. To 5 g. 2-aminotriphenylcarbinol in 15 ml. pyridine was added 2.8 g. BrCl yielding after 1 hr. on a steam bath 57.2% *N*-bromo-2-aminotriphenylcarbinol (I), m. 211-13°. This (1 g.) refluxed 0.5 hr. in 1 ml. PhNO<sub>2</sub>, cooled, treated with 15 ml. dil. HCl, steam distd., and treated with NH<sub>4</sub>OH, gave 0.62 g. 9-phenylacridine, m. 184-8°; *p*-nitro, m. 237-9°. I treated as above on a larger scale gave 9-phenylacridine, BrOH, and 1,1,3-triphenyl-3,4,1-benzocarbazine (II), m. 220-1.8°. I heated with AcO-NaOAc 1 hr. gave 99% II; *p*-nitro, m. 205.5°. 2-Aminotriphenylmethane with BrCl gave the *N*-Br deriv., m. 143-9.6°. G. M. Koslanoff.

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61537

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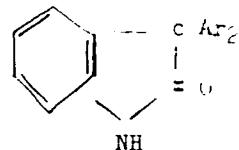
Title: o-toluidides of Diarylglycolic Acids and Their Conversion to  $\beta$ , $\beta$ -diaryl-7-methyloxindol. XXIV.

Original

Periodical: Zh. obshch. khimii, 1956, 26, No 1, 223-226

Abstract: By interaction of  $ArMgX$  with methyl ester of o-methyioxanilic acid (I) (for example 0.3 mol  $C_6H_5Br$  (II) and 0.075 mol (I) have been synthesized o-toluidides of diarylglycolic acids  $o\text{-CH}_3C_6H_4NHCOC(OH)Ar_2$  (III) which by action of concentrated  $H_2SO_4$  are converted to  $\beta$ , $\beta$ -diaryl derivatives of 7-methyloxindole (IV).

Prepared were the following III (listing Ar, yield %, MP °C):  $C_6H_5$  (IIIa), 45.3, 147-148 (meth and subsequent from alcohol);  $o\text{-CH}_3C_6H_4$ , 62.0, 143.5-150.5;  $p\text{-CH}_3C_6H_4$ , 49.3, 152.5-153.5;



IV

Card 1/3

USSR/Organic Chemistry - Synthetic Organic Chemistry, E-2

Abst Journal: Referat Zhur - Khimiya, No 19, 1956, 61538

Abstract: o-CH<sub>3</sub>OC<sub>6</sub>H<sub>4</sub>, 41.9, 128-128.5. Analogously from II and ethyl ester of 2-methyl-4-bromoxanilic acid prepared by action on I in 80% CH<sub>3</sub>COOH of equimolecular amount of Br<sub>2</sub> at 20° (yield 80%, MP 101.5° (from alcohol)), was synthesized 2-methyl-4-brom-anilide of benzylic acid, yield 51.3%, MP 177.5-178.5°. To a solution of 3 g IIIa in 30 ml glacial CH<sub>3</sub>COOH added concentrated H<sub>2</sub>SO<sub>4</sub> until brown coloration no longer formed and the [redacted] into water; obtained IV (Ar = C<sub>6</sub>H<sub>5</sub>) (IVa), yield 96.7%, MP 254-255° (this and subsequent from glacial CH<sub>3</sub>COOH). Analogously were synthesized other IV (listing Ar, yield %, MP °C): o-CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>, 81.8, 285-287 (sealed capillary); o-CH<sub>3</sub>OC<sub>6</sub>H<sub>4</sub>, 84, 249-250.5; p-CH<sub>3</sub>C<sub>6</sub>H<sub>4</sub>, 80.5, 227-228 and also 3,3-diphenyl-5-brom-7-methyloxindole, yield 76.8%, MP 284-285°. Structure of IVa confirmed by its oxidation with CrO<sub>3</sub> to 1,1-diphenyl-3-oxo-5-methyl-3,4-dihydro-2,4,1-benzoxazine, yield 35.2%, MP 190-192° (decomposition; from alcohol) and further conversion of the latter on heating with C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub> to 4-methyl-9-phenyl acridine (V); latter on heating with C<sub>6</sub>H<sub>5</sub>NO<sub>2</sub> to 4-methyl-9-phenyl acridone. Thus literature data on interaction of II with 4-methyl acridone. Thus literature data (Liebig, H., J. pr. ch., 1908, 72, 78, 47) according to which

Card 2/3

Card 3/3